Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers	)	CC Docket No. 01-338
	)	
Implementation of the Local Competition Provisions of the Telecommunications Act of 1996	)	CC Docket No. 96-98
	)	
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	CC Docket No. 98-147

JOINT DECLARATION OF ANJALI JOSHI, ERIC MOYER, MARK RICHMAN, AND MICHAEL ZULEVIC ON BEHALF OF COVAD COMMUNICATIONS COMPANY

I. Witness Qualifications

1. My name is Anjali Joshi. I am the Executive Vice President for Engineering for Covad Communications Company ("Covad"). My business address is 3420 Central Expressway, Santa Clara, CA 95051. I am responsible for network infrastructure planning and implementation. I have extensive experience in designing and building carrier class networks for voice and data. Prior to joining Covad, I worked for AT&T, where I developed AT&T's InterSpan ATM service. I have Masters degrees in Engineering and Computer Engineering and a BS degree in Electrical Engineering.

2. My name is Eric Moyer. I am the Director of Marketing Operations at Covad and am responsible for strategic business projects at Covad. My business address is 3420 Central Expressway, Santa Clara, CA 95051 . Previously, I was the Director of Product Management for Consumer Services (also Consumer/Business Access Services) for three

and a half years at Covad. Prior to coming to Covad, I worked at Hewlett Packard for 8 years in a variety of positions, including Industry Marketing Manager for US Wireless segment; Industry Marketing Manager for Fiber Optic Test; various other marketing, technical, and sales positions at HP, all in the telecommunications industry. I hold an MBA from Harvard Business School (1998) and a BS degree in electrical engineering and computer science from Johns Hopkins University (1988).

3. My name is Mark Richman. I am Chief Financial Officer for Covad. My business address is 3420 Central Expressway, Santa Clara, CA 95051. I have over 18 years of financial management experience. Prior to joining Covad, I was vice president and CFO for MainStreet Networks. Before MainStreet, I held senior management positions at Adecco S.A. where I was vice president of finance and administration for Adecco U.S., a $3 billion operating division. I was also vice president and corporate treasurer at the parent company. I also have worked for Merisel, Inc., ING Capital, Manufacturers Hanover Trust Company and Wells Fargo Bank. I hold a B.S. degree in managerial economics from the University of California at Davis and a MBA from the Anderson School at UCLA.

4. My name is Michael Zulevic. I am a Director of External Affairs for Covad Communications Company. My business address is 13769 North Slazenger Drive, Oro Valley, Arizona 85737. I am responsible for providing technical and witness support to Covad's Government and External Affairs Department in connection with regulatory proceedings. Prior to joining Covad, I was employed by U S WEST (now Qwest) for 30 years, most recently as Manager, Depreciation and Analysis for the last year I was employed by US WEST. Prior to that, I worked in Network and Technology Services

(“NTS”) for several years, providing technical support to U S WEST Interconnection Negotiation and Implementation Teams. While working in these two capacities, I provided testimony on technical issues in support of arbitration cases and/or cost dockets in Minnesota, Iowa, Montana, Washington, Oregon, Arizona, New Mexico, Nebraska, Utah, Wyoming, and Idaho.

II. Background on Covad

5. Covad is the nations’ largest competitive digital subscriber line (“DSL”) service provider. DSL is a broadband data service that offers consumers high speed connectivity over copper and fiber loops with data speeds that are more than twenty times faster than conventional dial-up modems. To offer service to its customers, Covad raised more than two billion dollars in debt and equity financing and constructed a nationwide facilities-based broadband network[1]. In addition to purchasing and deploying its own broadband equipment, Covad leases unbundled loops, the high frequency portion of the loop, dedicated interoffice transport and collocation space from ILECs around the country. With over 350,000 customers, Covad is likely the nation’s largest user of standalone unbundled loops and line sharing network elements. Indeed, Covad’s services are currently available in the top 94 metropolitan statistical areas, and its network covers more than 40 million homes and businesses.

[1] Covad raised $1.4 billion in debt and $0.7 billion in equity.

III. Covad's Network Architecture

6. Covad specifically relied upon the Commission's UNE rules in designing its network architecture. By way of background, Covad's network is structured as follows:

(A) Covad has collocated a digital subscriber line access multiplexer ("DSLAM") at each ILEC central office at which the loops of its target end users terminate;

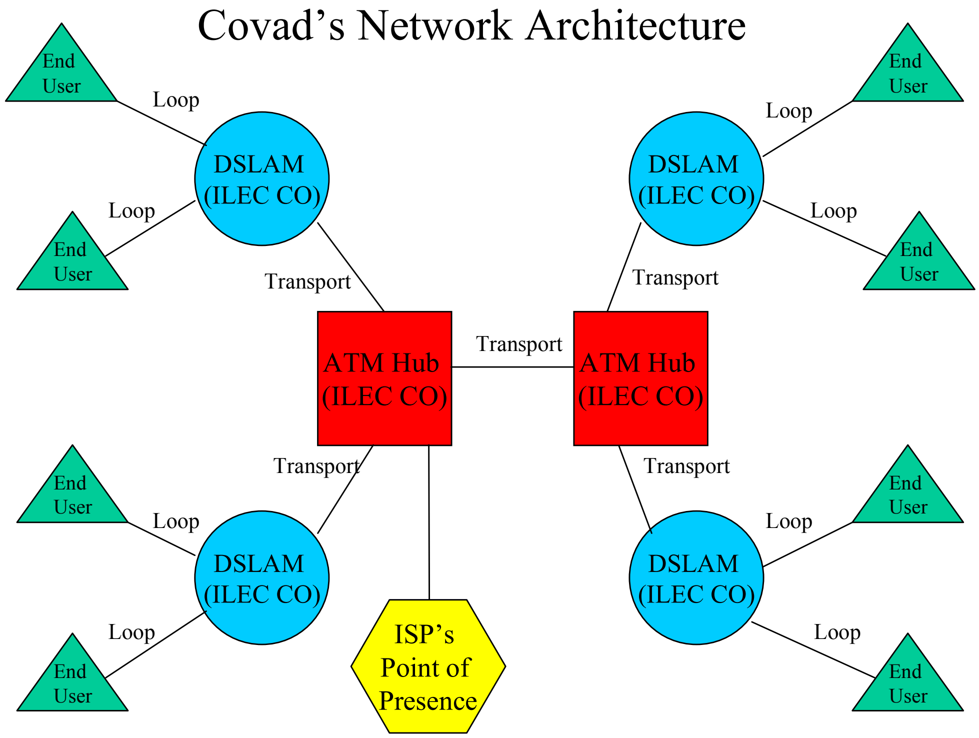
(B) Covad creates hub locations by collocating ATM equipment at an ILEC central office that collects traffic from a group of central offices with a DSLAM;[2]

(C) Covad connects each of its DSLAMs to a hub central office with dedicated interoffice transport ("transport");

(D) Covad interconnects its ATM equipment both within each region and between regions with transport; and

(E) Covad and its Internet service provider ("ISP") partners connect their IP Points of Presence ("POPs") to ATM equipment in one or more regions.

[2] Covad determines the ratio of hubs (ATM equipment) to spokes (DSLAMs) through the use of a cost optimization algorithm, which weighs the transport and DSLAM costs against the cost of the ATM equipment. The actual number of DSLAMs per piece of ATM equipment varies throughout Covad's footprint.



7. For purely illustrative purposes, Covad's network looks like the diagram above.

8. As the diagram makes plain, Covad's network is designed to aggregate traffic from a large number of central offices at hub locations. In determining what level of aggregation to use, Covad relied upon the availability of UNE transport. As the price of transport increases, so too does the value of aggregating traffic and thereby creating economies of scale. If the Commission were to take unbundled transport off the list of UNEs, Covad's network would no longer be efficient or viable. Covad would need to deploy additional hubs in order to aggregate more traffic and reduce its costs to transport each unit of traffic. An architecture with a large number of hubs would justify placing different (and smaller) ATM equipment because the traffic would be more distributed. Alternatively, if Covad did not add hubs, it would have to de-activate DSLAMs whose

transport costs are too high (e.g., those serving residential customers), which means serving fewer customers in general and contracting Covad's business.

9. It would be undesirable and costly for Covad to reduce the size of its central office footprint. Covad has an obvious incentive to make its services available to as large an addressable market as is financially and technically feasible. Moreover, Covad does not relish the prospect of forcing end users to leave its network. At the same time, it would be even more costly and time-consuming for Covad to convert to a more aggregated network architecture because: (a) it would have to buy and collocate smaller ATM equipment; and (b) it would have to re-configure its existing transport network to create smaller aggregation zones.

IV. Covad's Financial Model

10. To assist the Commission in understanding the impact of removing certain network elements from the UNE list, we provide below a breakdown of Covad's monthly cost of providing service (total costs, excluding SG&A[3] expenses and capital investments[4]):

- ILEC loop costs are approximately 22% of monthly costs;
- ILEC dedicated transport costs are approximately 25% of monthly costs;
- ILEC collocation costs (including rent and power) are approximately 15% of monthly costs;
- Covad's operations costs (e.g., salaries and related costs) are approximately 25% of monthly costs; and
- Other miscellaneous costs of service are approximately 13% of monthly costs.

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3 Sales, General & Administrative ("SG&A") expenses.

4 Capital expenses include the investment that Covad made in DSL equipment that it collocated in ILEC central offices.

11. In addition, Covad's use of self-installation kits for line sharing customers has improved these numbers dramatically. When Covad had to install ADSL service for consumers over stand-alone loops, it cost approximately $150 for each dispatch (and often times more than one dispatch was necessary for individual consumers). Because margins are so low on residential lines, the cost of dispatching to install residential orders prevented Covad from offering these services profitably, and the lack of line sharing would have forced Covad eventually to exit the residential broadband market entirely. As with ILECs, Covad can only deploy DSL profitably to residential customers if line sharing is available.

V. Copper DSL Loops and Line Sharing

12. For Covad, there are no alternatives to the ILEC's loop plant.[5] Contrary to the ILECs' arguments, cable, competitive fiber, wireless and satellite facilities are not viable alternatives to DSL (for both residential and business customers).

13. Starting with cable,[6] it is hardly trivial to an independent broadband provider like Covad that cable providers do not lease their plant to other carriers, and thus is not available as an alternative to ILEC loop plant. The costs to Covad of placing new cable plant would be phenomenal (and not much different than replicating the ILEC's loop plant, which would cost hundreds of billions of dollars). Even if cable providers were willing to unbundle their equipment, cable is a fundamentally different service than DSL, as the next five paragraphs demonstrate. This also helps explain why retail DSL services

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5 We should also note that it is often not possible to provide DSL service to residential consumers over a stand-alone loop (in lieu of line sharing) because many consumers have only one line coming to their home.

6 *See* NPRM, ¶ 28.

offered by Covad are an important choice for consumers to have as an alternative to cable modem services.

14. First, because of the shared nature of cable modem networks, all data sent to or from a given subscriber is transmitted to all subscribers in the neighborhood. While measures can be taken to secure this data, security remains a primary concern, especially for business or home office users. By contrast, DSL networks operate on a point-to-point basis between the subscriber and the service provider and therefore do not present the opportunity for a one subscriber to attempt to view another's traffic. Because of the shared nature of the cable system, Covad would have little control over the kinds of broadband services offered over cable. All of the users on a cable system get basically the same broadband service. DSL service, by contrast, runs over loops that are dedicated to each end user and thereby allow the DSL provider to offer dramatically different network access services (including, but not limited to, access to the Internet and virtual private networks) to different customers. DSL providers differentiate their products through the available bandwidth (both upstream and downstream), the quality of service, and the manner in which traffic is prioritized, which would be difficult on a shared platform.

15. Second, cable modem service is generally not available to businesses. When cable providers originally wired cities, they went after residential customers. For the most part, they did not wire commercial centers. On the other hand, Covad can provide a

variety of business-class broadband services[7] to small business customers using DSL because they all have telephone lines.

16. Third, in any event, cable plant generally does not provide the kind of upstream bandwidth that small business demands. Cable modem services are biased toward downloading, which meets the typical usage pattern of residential customers using the service for recreation purposes. Cable services are also inadequate for telecommuters, who are residential customers that often require high upload speeds.

17. Fourth, cable plant does not provide a dedicated circuit in the manner that DSL does. The bandwidth provided to each cable customer depends on the number of other users currently on the network in that neighborhood. DSL, by contrast, gives the customer dedicated bandwidth all the way to the central office. As a result, cable provides such a distinctly lower quality of service than DSL that the two truly are not technically comparable substitutes for one another.

18. Fifth, cable modem service in the past has been much less suitable than DSL for transmitting voice services. As the shared cable network becomes more congested, services that are sensitive to delay such as voice will become increasingly unreliable to the point where it may no longer be possible to provide toll quality voice services at all.[8]

19. Competitive fiber, over which competitors offer voice, data and T-1 services, is no alternative to DSL for two primary reasons. First, the costs of deploying competitive fiber make it economical only if the target market consists of large business

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7 Business class competitive broadband service is an always-on Internet connection providing a minimum guaranteed bandwidth of 384 kbps both up- and downstream and priced at approximately $350/month (as opposed to roughly $1000/month for a T-1 service).

8 By contrast, a single SDSL line could carry up to 16 voice lines reliably and with a high quality of service.

customers in commercial centers, not the residential and small business customers that Covad targets over individual loops.

20. Second, competitive fiber is by no means ubiquitous. For instance, the Joint Petition of BellSouth, SBC, and Verizon effectively admitted that 75% of the commercial buildings in the country were without access to competitive fiber.[9] And that study dealt with large buildings; competitive fiber is not nearly so prevalent in areas that predominantly contain residential and small business customers.

21. Offering broadband services over wireless networks is not an alternative to DSL for three reasons.[10] First, Covad is not aware of any wireless carriers that have made their broadband services or underlying network facilities available for resale. Similarly, Covad could not be expected to construct a wireless network itself. Setting aside the vast capital outlay that would be required (but most likely unavailable in today's market), there is also the problem of obtaining spectrum. It is far from clear what spectrum Covad could obtain and use to provide broadband services.

22. Second, the maximum bandwidth of most wireless networks is nowhere near that of DSL. Certain carriers, such as Winstar and Teligent, created much more powerful wireless networks, but those were targeted at large business customers. And even then, both of those companies drove themselves into bankruptcy pursuing a customer base that is far more lucrative than the residential and small business customers that Covad serves.

23. Third, the cost of adding subscribers to a wireless network is very high compared to DSL. For the most part, this cost difference is attributable to (1) the need to

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[9] *See Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Joint Petition of BellSouth, SBC, and Verizon for Elimination of Mandatory Unbundling of High-Capacity Loops and Dedicated Transport*, Joint Petition, CC Docket No. 96-98, at 11 (stating that only 25% of the nation's commercial buildings are served by a competitive fiber provider).

use relatively expensive customer premises equipment for wireless customers; (2) the more intense labor costs associated with installing wireless customers; and (3) the greater amount of engineering work tailored to each customer to ensure acceptable signal strength.

24. Satellite broadband services are not an alternative to DSL for four reasons. First, most such services are not two-way. While satellite dishes to receive programming are small enough (18" in diameter) to be ubiquitous, they are too small to send data back to the satellite. Most satellite services must use telephone lines to provide two-way communications, which severely limits upstream bandwidth. The few services that do offer two-way communications through the dish itself have very low upstream speeds. Consequently, satellite broadband service is either purely a residential product (because it provides significant bandwidth only for downloading) or a small business product only when coupled with a high capacity telephone line for uploading (which essentially would be DSL).

25. Second, the performance of satellite-based communications suffers from the delay caused by the distance that the signal must travel. These services typically use geostationary satellites that orbit over 22,000 miles above the equator. The time that it takes signals to cover that distance, even in one direction, prevents many applications from working properly. In addition, since the satellites orbit above the equator, subscribers in North America must be able to place their dish in position to have a clear view of the southern sky.

26. Third, satellite broadband platforms cannot offer both broadband *and* voice services to end users. There is simply too much delay in having the voice signal travel to

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[10] *See* NPRM, ¶ 28.

and from a satellite for such carriers to provide high quality voice services. Although there are satellite telephones available to end users, they use lower orbiting satellites that then lack the capability to offer broadband service.

27. Fourth, even if the technical problems with satellite broadband service did not exist, it would be unlikely that Covad could raise the capital in today's market to enter what would be a new line of business.

VI. DS-1 Loops

28. DS-1 loops can be either ordinary copper loops with DS-1 electronics installed along the loop or fiber loops with electronics installed at the customer's premise and the central office. DS-1 loops provide a reliable symmetric connection operating at 1.544 mbps.

29. There are no alternatives to DS-1 loops that could eliminate the need for an unbundling obligation. The various technologies discussed above (cable, fiber, wireless, and satellite) are even less appropriate substitutes for DS-1 loops, which are highly reliable, high-capacity facilities.

30. It is worth explaining why standard DSL loops are not an alternative for DS-1 loops.[11] First, DSL can deliver similar bandwidth to DS1 loops only over relatively short distances (approximately 8,000 feet from the central office).[12] DS-1 loops are designed to overcome the distance limitations of DSL by making use of technologies such as repeaters and fiber optics. DS-1 loop designers deploy the most appropriate technology

[11] In fact, Verizon Communications has previously admitted that SDSL and T-1 services are very different. *See* letter of Michael E. Glover & Karen Zacharia (of Verizon) and Michael Olsen & William J. Bailey, III (of NorthPoint) to Jake Jennings, Deputy Division Chief, at 2 (filed in CC Docket No. 00-157, August 31, 2000).

based upon the distance of the end user from the central office as well as knowledge of the make-up and design details of the loop plant that serves the end user.

31. Second, because DS-1 loops are specially designed to be suitable for carrying DS-1 signals, they tend to be more reliable[13] and come with tighter time-to-restore targets. While DSL is generally a reliable technology, it typically runs on copper loops that are not specifically engineered to the specifications of the technology that they will carry. Therefore, it is less certain that a given DSL loop will be suitable for the service that will ultimately run over it.

32. Interestingly, end users who buy DS-1 service from Covad generally seek in the first instance to purchase DSL service (because it is much cheaper), but are unable to do so because of technical limitations on DSL that DS-1 service overcomes.

VII. Hybrid Copper/Fiber DSL Loops

33. More and more, ILEC loop networks are constructed using both copper wire and fiber optic cable.[14] In this configuration, a fiber loop feeder travels from the central office to a remote terminal ("RT") in the field, where digital loop carrier ("DLC") electronics convert the optical signal into an electrical one traveling over a copper loop (known as "distribution") to the customer's premises.

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[12] *See id*. ("whereas a T-1 line runs at a constant bandwidth of 1.544 Mbps, and SDSL line can run at that speed only at short distances from the central office").

[13] *See id*. (T-1 lines are "technically more robust" than SDSL lines, "are not limited by loop length from the central office and can be ordered for a long haul circuit of hundreds of miles").

[14] According to the Commission's 2000 ARMIS reports, of the 196 million local loop channels in service across the country, approximately 42 million, or 21% of those loops, were served at least partially over fiber facilities. *See FCC 2000 Trends in Telephone Service*, at 18-7, available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/trend801.pdf.
We expect that number to rise in the future, given that most ILECs have ceased deploying new all-copper loops.

34. Although DSL is primarily a technology for transmitting broadband services over copper loops, carriers can offer it over hybrid copper/fiber loops through two methods. First, they can use DLC at the RT that is DSL-compatible,[15] such as Alcatel's Lightspan 2000 product,[16] which employs fiber loops typically designed as follows:

(F) the feeder of the loop, carrying both digitized voice and data, is made of fiber optic cable that terminates at a remote terminal in the field (within several thousand feet of the customer);

(G) at the remote terminal, there are DLC electronics at the end of the fiber portion of the loop;

(H) these DLC electronics transform both the voice and data signals on the loop from optical to electrical form;

(I) as the loop signal exits the DLC electronics in electrical form, it travels over a copper cross-connect to the copper distribution cable; and

(J) that copper distribution cable travels to the customer's location.

35. Loops in this configuration (hereinafter the "Fiber DSL Loop") terminate in the central office on an optical concentration device ("OCD"), unlike traditional fiber loops carrying voice services that terminate on either DLC equipment or the ILEC's switch. An OCD acts essentially as an ATM demultiplexer and a termination point that is the equivalent of a main distribution frame. In other words, the OCD is the first point in the central office at which the signal from the loop terminates (by converting from optical to electrical

15 DLC that is DSL-compatible is commonly known as next generation DLC ("NGDLC").

16 ILECs can upgrade the Lightspan 2000 to handle DSL signals simply by adding to it certain line cards and other electronics. Both SBC and Verizon use the Lightspan 2000 DLC to a significant degree and have undertaken the upgrades discussed here. SBC has done so as part of Project Pronto. Verizon announced on February 20, 2002 that it plans to offer retail services based upon this configuration in Massachusetts beginning in July of this year. Verizon also has pre-positioned Lightspan 2000 equipment at certain RTs that is DSL-capable, albeit it still requires ADLU cards and ABCU cards to be added.

form). The OCD also demultiplexes and distributes the signal to its next destination (which, although ILECs may intend to keep the traffic within their networks, can be to a group of CLECs collocated in the central office).

36. With Fiber DSL Loops, ILECs can offer customers voice services alone, voice and DSL services over the same line, or DSL service alone, all of which can be provisioned remotely once the appropriate line cards have been placed in the NGDLC.

37. Second, carriers can collocate a traditional DSLAM at the RT that will perform the functions of DSL-compatible DLC. In this configuration:

(A) The fiber feeder of the loop, carrying both digitized voice and data signals, terminates on DLC and/or fiber optic multiplexing electronics in an RT in the field;

(B) The digitized voice signal (if present) is fed into the DLC, which converts the voice into an analog signal on a copper pair;

(C) The data signal is fed into a traditional DSLAM, which may be collocated there or at a feeder-distribution interface ("FDI")[17] located even closer to the end users;[18]

(D) The DSLAM converts the data into a DSL signal on a copper pair;

(E) If the voice and data are to share a single copper pair, the two pairs (from B and D, above) connect to a splitter that combines the low frequency voice signal with the high frequency DSL signal on a single pair; and

(F) the DSL signal, or combined voice and DSL signals, are transmitted over the copper distribution cable which then travels to the end user's location.[19]

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[17] An FDI is a cross-connection point where copper feeder cable from a fiber-served RT connects to copper distribution cable. Normally, several FDIs serve each RT.

[18] In the case of a line shared service, a splitter would handle the separate data and voice connections that pass through the RT. The splitter would be located within or adjacent to the DSLAM.

[19] Some ILECs have stated that they would not allow CLECs to receive data signals over the same fiber cable that serves the DLC electronics there. Instead, CLECs would have to purchase dark fiber from the RT to the central office in order to transmit the data signal to the RT. It is not likely that such dark fiber would be ubiquitously available at all RTs.

38. The difference between the two methods is that (1) with the first, the DLC performs all of the functions of the DSLAM in an integrated fashion; and (2) with the second, there are considerable inefficiencies associated with placing a stand-alone DSLAM in a RT (or FDI) and connecting it to the copper and fiber loop plant. These inefficiencies include:

(A) Placing a stand-alone DSLAM in an RT/FDI requires space that may not be available, depending on the RT;

(B) Stand-alone DSLAMs require an independent source of power that often is unavailable at RTs;

(C) Having to make new and separate connections between the stand-alone DSLAM and the fiber and copper appearances in the RT, that are otherwise unnecessary with a Fiber DSL Loop, is costly and may require a technician to be dispatched for each new line;[20] and

(D) There likely will be greater maintenance costs associated with maintaining equipment collocated at RTs, because there will be more points of failure.

We also estimate that, assuming Covad had the necessary capital, it would take as many as 10 years to collocate at RTs ubiquitously.[21]

39. Despite all of these inefficiencies, ILECs contend that the Commission should force CLECs to collocate stand-alone DSLAMs at RTs, rather than unbundle Fiber DSL Loops. The following sample business case explains why it would be financial suicide for CLECs to do so. The business case is based upon a typical Covad market, with 50

[20] The process would be further complicated because, as we understand the situation, ILECs are not proposing to give CLECs direct access to equipment collocated at RTs.

[21] It took Covad 3 years to collocate at approximately 1700 central offices. There are many more RTs than there are central offices, and it is much more difficult to collocate at RTs than at central offices. For that reason, we assume that the time to collocate at RTs ubiquitously would be more than triple Covad's time to collocate in ILEC central offices.

central offices, each serving an average of 15 RTs.[22] The case assumes that the average cost of collocating at an RT is $90,000, which is based upon Qwest testimony given in Minnesota.[23] The case also assumes that each RT serves 300 customers and that Covad is able to win the business of 5% of them (which is conservative estimate, given that broadband penetration for all platforms, including cable modem service, is 11% nationwide).[24]

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[22] Although in some cases, this business plan would require Covad to collocate at some FDIs that are associated with a given RT, Covad has not included that configuration in this business case for the sake of simplicity.

[23] Attached hereto as Exhibit A is the testimony of Georganne Weidenbach on behalf of Qwest Corporation, presented to the Minnesota Public Utilities Commission, Docket No. P-421/CI-01-1375, OAH Docket No. 12-2500-14490-2 (dated February 2, 2002). Ms. Weidenbach testified (at 8) that "Qwest estimates that it will cost approximately $90,000 per remote DSLAM." This fee will buy CLECs a slot in a collocation hotel that Qwest will build at each RT. For that reason, the estimate probably understates the cost to collocate at the RTs of ILECs that are not constructing such collocation hotels on a standard basis for CLECs. Indeed, we are aware that Sprint spent more than $130,000 to collocate next to an RT in Kansas. Sprint did not collocate in the RT because there was no room for its equipment. See *ex parte* letter of Richard Juhnke (Sprint) to Magalie Roman Salas, CC Docket Nos. 96-98 & 98-147 (dated July 18, 2001). We believe that the majority of RTs in the country will have such space constraints (perhaps even those in Qwest's territory because it cannot guarantee that there will be space in the collocation hotels for every CLEC). Thus, relying upon the Qwest cost estimate was conservative.

[24] In an Illinois proceeding on Ameritech's deployment of Project Pronto, Ameritech forecasted that CLECs would capture between 3 and 5 customers per RT. Covad conservatively assumes in the sample business case that at least three times that amount of customers will select its RT-based DSL service.

Sample Business Case for RT Collocation

Model Input	Model Assumptions/Conclusions
Central Offices	50
Remote Terminals Per CO	15
Total Remote Terminals	750
Cost to Collocate at RT	$90,000 per RT
Total RT Collo Costs	$67,500,000
Avg. # Customers Per RT	300
Total Number of RT Customers	225,000
Take Rate	5%
Total Customers Captured	11,250
Average monthly revenue per customer for Covad	$35
Total Annual Revenue to Covad for Captured Customers	$4,725,000
Years to Recover Investment in RT Collocation	14.2 years, assuming no churn in customer base

40. The business case demonstrates that it would take 14.2 years to recover *just* the cost of collocating at RTs from customers (assuming there is no churn).[25] The business case does not consider such other real and significant costs as: (A) the capital and collocation costs of placing DSL equipment in the central office; (B) the transport costs of sending DSL traffic from the end user's serving central office to the Internet; (C) the customer premises equipment costs (e.g., the DSL modem); (D) any of the recurring costs to use any of the associated network elements; (E) any of the recurring costs to collocate in RTs in the first place; or (F) any of the costs to provision DSL loops served by such RTs. No CLEC could make a profit faced with these economics.

41. ILECs, on the other hand, that upgrade their DLC to create Fiber DSL Loops enjoy a much rosier set of numbers. In announcing the roll-out of Project Pronto, SBC

[25] Interestingly, the Commission's depreciation lives for digital circuit equipment, such as the DSLAMs to be placed in RT collocations, are generally less than 14 years. The DSLAMs of CLECs

told the investment community that: “The network efficiency improvements alone will pay for this initiative, leaving SBC with a data network that will be second to none in its ability to satisfy the exploding demand for broadband services.”[26] SBC further bragged that its

> new network investments will have a profound impact on its cost structure; in fact, the efficiencies SBC expects to gain will pay for the cost of the deployment on an NPV basis. These efficiencies are conservatively targeted to yield annual savings of about $1.5 billion by 2004 ($850 million in cash operating expense and $600 million in capital expenditures).[27]

Plainly, deploying Fiber DSL loops will be a infinitely more financially rewarding opportunity for ILECs than the prospect of collocating stand-alone DSLAMs at RTs would be for CLECs.

42. If the Commission decides to permit CLECs to unbundle Fiber DSL Loops, it should also allow them to modify the associated quality of service (“QoS”) settings on the NGDLC. QoS determines the priority that the NGDLC assigns to particular types of traffic. Some end users may require a connection that provides a more stringent guarantee of what bandwidth will be available when the network is congested than other end users’ traffic receives. For example, with voice or video conferencing services offered over the network, which are “real-time” services that are extremely sensitive to delay, the network must ensure that the traffic is delivered at a very consistent rate. When data and voice/video packets arrive at a congestion point, the data can wait,

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required to collocate at the RT would not have any remaining economic life before they ever produced a dime in profit.

[26] *See SBC Announces Sweeping Broadband Initiative*, SBC Investor Briefing, at 2 (October 18, 1999). It is our understanding that SBC has deployed a substantial portion of the Project Pronto facilities.

[27] *Id.*, at 7.

but the voice and video traffic generally cannot do so (without distorting the customer's service).

VIII. Dedicated Interoffice Transport

43. Covad provided the Declaration of Mark Shipley and Marie Chang last year in response to the petition of BellSouth, Verizon, and SBC to remove dedicated interoffice transport ("transport") from the list of unbundled network elements.[28]

44. Although competitive transport is not ubiquitously available, where it is available, it is expensive. CLECs providing competitive transport are competing with the ILEC's special access services (where both ILECs and CLECs seek to serve end users on a retail basis, not telecommunications carriers on a wholesale basis). For that reason, competitive transport providers price their services typically at a 20% discount from the ILEC's special access services, which is generally more than twice the UNE rate. Covad could not afford to use competitive transport, even if it was ubiquitously available.

45. Covad could not build its own transport facilities because it lacks both the expertise and the capital. Covad does not have the employees necessary to dig up the streets and lay fiber. Even if it did, Covad does not have the capital necessary for such operations, nor could it obtain that kind of money in today's market.

46. Today, most all transport and digital loop carrier runs over fiber facilities and uses Synchronous Optical Network ("SONET") electronics. SONET is merely "an

[28] *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Joint Petition of BellSouth, SBC, and Verizon for Elimination of Mandatory Unbundling of High-Capacity Loops and Dedicated Transport*, Declaration of Mark Shipley and Marie Chang, CC Docket No. 96-98 (June 11, 2001).

optical interface standard" by which manufacturers build all kinds of equipment – everything from digital loop carrier to common and dedicated interoffice transport.[29]

47. There is nothing special about SONET technology to warrant an exception from the Commission's unbundling rules. Indeed, such an exception would eviscerate any rules unbundling transport and fiber loops (carrying both voice and data traffic) because almost all of it is SONET-based.

48. Similarly, the fact that a piece of transport may be channelized on a larger facility is no reason not to unbundle it. It is generally efficient to channelize as much of the transport network as possible. For that reason, DS-1 transport is usually channelized on a DS-3 or OC-3 facility. But that does not mean that Covad or another CLEC could have either built the larger facility or leased it from another provider. When Covad needs a DS-1, it cannot build the facility, nor can it buy a much larger facility, such as DS-3, because the cost difference between the two can be huge. In addition, if Covad cannot find any alternative transport in general, it does not matter that CLECs theoretically also sell channelized DS-1 service.

49. This concludes our declaration.

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[29] *See* Newton's Telecom Dictionary, at 663-64 (14th Ed. 1998).

I declare under penalty of perjury that the foregoing is true and correct. Executed on April __, 2002.

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Anjali Joshi

I declare under penalty of perjury that the foregoing is true and correct. Executed on April __, 2002.

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Eric Moyer

I declare under penalty of perjury that the foregoing is true and correct. Executed on April __, 2002.

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Mark Richman

I declare under penalty of perjury that the foregoing is true and correct. Executed on April __, 2002.

____
Mark Shipley

I declare under penalty of perjury that the foregoing is true and correct. Executed on April __, 2002.

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Michael Zulevic